quasar energy group

DOVETAIL ENERGY
STORM WATER POLLUTION PREVENTION PLAN
Fairborn, Ohio

1.0 INTRODUCTION

1.1 Terms of Reference:

This storm-water pollution prevention plan (SWPPP) was prepared to address the construction activities at the site identified as Dovetail Energy, **LLC. – Anaerobic Digestion Facility**. The property is owned by Dovetail Energy, **LLC.** and will be covered under the Ohio General Stormwater Permit OHC000003. The property is located in the Pitstick Farm in Fairborn, Ohio.

1.2 Purpose and Scope:

Because the operations will disturb more than one acre of land a National Pollutant Discharge Elimination System (NPDES) general permit for storm-water discharges associated with construction activity must be obtained from the Ohio Environmental Protection Agency (Ohio EPA). Dovetail Energy, LLC. (DE), the operating contractor, will submit a Notice of Intent (NOI) and obtain the stormwater permit OHC000003. In accordance with the Ohio EPA regulations related to the NPDES general permit, Dovetail Energy must prepare a SWPPP for the proposed activities and maintain the SWPPP at the Fairborn site. This document presents the required SWPPP.

This SWPPP will be maintained at the Dovetail Energy site and amended whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of the United States. The SWPPP will also be amended if it proves to be ineffective in achieving the general objectives of controlling pollutants in storm-water discharges associated with construction activities.

The purpose of the SWPPP is twofold: (i) to provide Dovetail Energy personnel with a guidance document establishing procedures and practices to be followed to prevent potential pollutants from mixing with storm-water runoff from the Dovetail Energy site; and (ii) to provide Ohio EPA with a narrative description of the practices that will be used to obtain compliance with the terms and conditions of the NPDES general permit to be issued for the Dovetail Energy site.

This SWPPP was prepared to describe sources of pollutants that may potentially exist during construction activities and which may reasonably be expected to affect the quality of storm-water discharge from the site. This SWPPP also presents control practices to be implemented during and after activities associated with the construction activities. The control practices are designed to limit to the extent practical the discharge of construction-related pollutants at the source and to minimize the impact of any such pollutants on the quality of storm-water runoff from the construction area.

The SWPPP has been prepared to be consistent with the information contained in the United States Environmental Protection Agency (USEPA) guidance *document "Storm Water Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices"* [USEPA, 1992]. The plan has also been prepared to be in compliance with regulations and standards contained in the Ohio Water Pollution Control Act (i.e., Ohio Revised Code (ORC) Chapter 6111).

1.3 Regulatory Requirements:

Storm-water discharges have been increasingly identified as a significant source of water pollution in numerous nationwide studies on water quality. To address this problem, the Clean Water Act (CWA) Amendments of 1987 required the USEPA to publish regulations to control storm-water discharges under the NPDES. The USEPA published storm-water regulations on 16 November 1990 that require facilities with a *"storm water discharge associated with construction activities"* to apply for a storm-water discharge permit.

In accordance with the provisions of the CWA amendments and the Ohio Water Pollution Control Act (i.e. ORC Chapter 6111), Ohio EPA has elected to issue two statewide general permits to cover the majority of discharges in the states; a general construction permit and an industrial permit. The construction permit requires dischargers to develop and implement a SWPPP to minimize pollutants in storm-water discharges associated with construction activities. Construction activities covered by the general permit include any clearing, grubbing, grading, excavating, or filling that result in the disturbance of 1 acre of land or more.

The construction activities at Fairborn will disturb more than 1 acre of land. Therefore, the construction activities at the site are covered under this general permit. The phrase "commencement of construction" is understood to mean the initial clearing of land and disturbance of soil associated with all excavating activities.

Dovetail Energy does not anticipate the release of any hazardous substances to storm-water discharges from the site. If hazardous substances are discharged from the site Dovetail Energy will comply with the reporting requirements under the Ohio Administrative Code (O.A.C.) 3750.25, Emergency Release Notification.

1.4 Organization of the SWPPP:

The remainder of the SWPPP is organized as follows:

- a site description, including the existing conditions, proposed activities and potential pollution sources, is presented in Section 2;
- a description of the control practices for potential pollution sources is presented in Section 3;
- the implementation of the SWPPP, including a description of the responsible parties, maintenance and inspection of SWPPP control practices, record-keeping, and Notice of Termination requirements is presented in Section 4; and
- the summary and conclusions are presented in Section 5.

2.0 SITE DESCRIPTION

2.1 Introduction:

The Fairborn site is owned by Dovetail Energy and will be operated by Dovetail Energy (DE). This area is covered under the stormwater permit # OHC000003. The property is located at 1146 Herr Road, Fairborn, Ohio 45324.

2.2 Existing Site Conditions:

2.2.1 Topography:

The surrounding acreage of Dovetail Energy site is dominated by farming activity.

2.2.2 Surface-Water Hydrology:

The site drains to Hebble Creek which flows into Beaver Creek. Steps have been taken to isolate any run-off to the creek. BMPs will be utilized for storm water management.

Average annual precipitation at the Dovetail Energy site is approximately 36" per year. Ordinarily, a percentage of the precipitation falling on the ground becomes runoff. No measure is available for the average amount of direct runoff from the Dovetail Energy site.

2.2.4 Soils:

Casco-Eldean loams and Miamiam silt loams are the dominant soil types on this site.

2.2.5 Vegetation:

The site is actively farmed and abuts hog barns. On-site soil will be preserved for use on the site.

2.3 Proposed Construction Activities:

Three acres of this site will be prepared for the start of construction activities. Clearing, grubbing and surcharge placement are the three major soil disturbing activities that will take place in order to prepare the site for the beginning of the structural work.

Retention basin(s) will be located as necessary to collect a majority of the run-off from this site. Drainage ditches will be cut to direct the watershed from the acreage to the retention basin(s). These ditches will be sloped to adequately drain all water shed from the parcel down into the retention basin(S). The retention basin on this site will be sized with a total capacity than exceeds the capacity required by the permit.

The general activities that will occur during the construction of the anaerobic digestion facility are described below:

Site preparation:

- install silt fence along areas to be disturbed,
- construct and stabilize sediment basin and outlet structure,

- construct and stabilize temporary diversion ditch,
- remove soil until final grades are reached.

The "runoff coefficients" for the site prior to construction and after construction (and stabilization) were taken to be runoff curve numbers (CN) used to estimate surface-water runoff. Prior to construction, the site is farmland. After construction, the site will be stabilized.

2.4 Potential Pollutant Sources:

The most likely potential pollutant which could result from construction activity at the Dovetail Energy site is sediment. All areas not permanently stabilized with vegetation are potential pollution sources in the event of precipitation. Other potential sources of pollution beside sedimentation include incidental spills from construction equipment (i.e., diesel fuels, oil, hydraulic fluids, etc.).

Erosion and sediment controls have been developed to manage surface-water run-on and runoff on the Dovetail Energy site. Surface-water run-on to the site could occur since the boundaries of the site are topographically lower than adjacent areas.

Surface-water runoff from the Dovetail Energy site will be conveyed as sheet flow to a temporary diversion ditch. Runoff collected in the diversion ditch will discharge to a sediment basin(s) to be constructed prior to the start of operations.

During the latter stages of construction, surface-water runoff will be conveyed as sheet flow directly to the sediment basin(s). Silt fences and other temporary erosion and sediment control practices will also be used to control sediment-laden surface-water runoff during construction.

3.0 CONTROL PRACTICES FOR POTENTIAL POLLUTANT SOURCES

3.1 Practices Related to Soil Erosion and Sediment Control:

3.2.1 Temporary Diversion Ditch:

A temporary diversion ditch will be constructed to divert runoff to the sediment basin. The diversion ditch will be decommissioned once the Dovetail Energy site is permanently stabilized and the ditch is no longer needed to convey runoff to the sediment basin(s).

3.2.2 Sediment Basin(s):

The sediment basin will be designed to have a capacity (as measured from the bottom of the basin to the elevation of the principal spillway crest) sufficient to contain at least 1,800 ft^3 of water per acre of drainage area. The principal spillway is designed to be of sufficient capacity to convey runoff from the 2-year, 24-hour storm.

3.2.3 Silt Fences:

Silt fences will be used, as needed, during all construction activities to control soil loss from up gradient areas. Silt fences will be placed along the creek bank to control the erosion from that area of the site. In addition, silt fences will be placed on the down slope sides of all areas to be disturbed until more permanent drainage and erosion control structures are established. If necessary, silt fences will also be placed down gradient of soil stockpile areas to reduce the sediment load to down gradient areas.

3.2.4 Soil Stabilization:

Appropriate stabilization practices will be initiated on all disturbed areas within the seven days if the area is to remain dormant for a period of 30 days or more. Permanent or temporary soil stabilization will be applied to disturbed areas within seven days after final grade is reached on any portion of the Dovetail Energy site. When seasonal conditions prohibit the application of temporary or permanent seeding, non-vegetative soil stabilization practices such as mulching will be used.

Disturbed areas will be seeded to stabilize the soil and reduce erosion. If mulch is used when seasonal conditions are unfavorable, the mulch will consist of clean hay, straw, or cellulose wood-fiber material. Topsoil stockpiled at the SVM site will also be seeded and mulched to minimize erosion if not used for a period of 45 days or more.

3.2.5 Post-Construction Storm-Water Management:

All of the structural practices previously described are temporary and will be decommissioned after all grading operations within the site are completed and the structural controls are no longer needed for sediment control. As vegetation becomes established, the soil erosion potential within the boundaries of Dovetail Energy will ultimately be low and essentially the same as the pre-construction condition. Therefore, discharges from the Dovetail Energy site are expected to be composed of almost entirely storm water.

3.3 Management Practices Related to Spills:

Responses measures will be implemented during the construction activities to reduce the impact of potential accidental spills of pollutants from construction vehicles (e.g., fuels, oils, and hydraulic fluids) from mixing with storm water.

In the event that a spill occurs, a swiftly executed response will be initiated. Spill response procedures described below will be readily available at the site. In addition, the Dovetail Energy Environmental Coordinator will be immediately contacted.

In the case of spilled petroleum fluids, the spilled area should immediately be contained by either placing absorbent materials over the spilled area (in the case of small spills) or by constructing a trench and berm around the spilled area (in the case of large spills). The source of the spill or leak will be immediately identified and eliminated or controlled. If the spilled material drains to a vegetative area, soils and vegetation that absorbed the spilled material will be removed as soon as possible, but in all cases before the next storm event. All removed soils will be disposed of in accordance with appropriate regulations. Additional safety equipment such as fire extinguishers will be readily available. Vegetation will be re-established in areas where soils have been removed.

Dovetail Energy personnel do not anticipate the release of any hazardous substances to storm-water discharges at the soil borrow area and haul road. To comply with the conditions of the general permit, the discharge of hazardous substances in storm-water discharge will be minimized, and in no case, during any 24-hour period, will the discharge contain a hazardous substance equal to or in excess of reporting quantities established under either 40 CFR Par 117 or Part 302.

4.0 IMPLEMENTATION OF THE SWPPP

4.1 Overview:

Dovetail Energy personnel will be responsible for the actual implementation of all control measures identified in this SWPPP. At least one Emergency Coordinators should be available at the site at any time, for this project it is the controlling supervisor. Procedures to be followed for implementation of the SWPPP represented in this section, which is organized as follows:

- maintenance of control practices identified in the SWPPP are discussed.
- the schedule and documentation of visual inspection of the SWPPP control practices.
- record-keeping procedures.
- conditions regarding the Notice of Termination.

4.2 Maintenance of Control Structures:

Preventive maintenance for the identified erosion and sediment control structures (e.g., silt fences, diversion ditch, and sediment basins) includes inspection for debris or other clogging material to ensure proper functioning of the structures, repair of areas exhibiting significant erosion, cleaning of temporary diversion ditch and sediment basin, reseeding, and fertilization. Maintenance of the erosion and sediment control structures will be performed promptly.

4.3 Visual Inspections:

Visual inspections are necessary to ensure that soil erosion and control practices are functioning properly and to identify areas of potential storm-water pollution within the Dovetail Energy site. Regular visual inspections are intended to provide a routine examination of the site to identify conditions which may cause potential pollutants to be released into storm-water runoff. When possible, visual inspections should occur during storm events to confirm that the practices implemented at the facility for management of runoff and for erosion and sediment control are functioning properly.

Inspection of the control structures to be implemented at the Dovetail Energy site as required by this SWPPP will be conducted by qualified personnel provided by Dovetail Energy, LLC. The qualified personnel will inspect disturbed areas of the construction site, any access roads, areas used for storage of topsoil that are exposed to precipitation that have not been permanently stabilized, and the structural control measures. These inspections will be conducted at least once every seven calendar days and within 24 hours of the end of a storm event that produces precipitation greater than 0.5 in. (1.3 cm) in a 24-hour period.

Disturbed areas and areas used for storage of topsoil that are exposed to precipitation will be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWPPP will be observed to ensure that they are adequately and properly implemented or whether additional control measures are required. Discharge locations will be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Access roads and parking areas will be inspected to insure that excessive rutting and subsequent degradation of the road surface does not occur and that the embankment side slopes are properly stabilized and/or vegetated.

The SWPPP will be revised within seven calendar days following the visual inspection, if the inspection shows that the erosion and sediment control practices are not adequate in minimizing pollutants in storm-water discharges. Such modifications will provide for timely implementation of any changes to the plan.

A report summarizing the scope of the inspection, name(s) of personnel making the inspection, the date(s) of the inspection, observations of the effectiveness of the control practices in the SWPPP, identification of any incidents of non-compliance, and a certification that the facility is in compliance with the SWPPP and the NPDES general permit will be made and are included in this SWPPP. The inspection report must be retained in the SWPPP file at the site for at least two years following the submittal of the Notice of Termination (NOT).

4.4 Record-Keeping:

A copy of the SWPPP and the erosion and sediment control plan will be retained by Dovetail Energy personnel at the Dovetail Energy site from the date of commencement of construction to the date that the NPDES permit is no longer required, but for at least two years following the submittal of the NOT. In addition, visual inspection reports and a record of the construction activities and stabilization measures will be retained in the SWPPP file at the site.

4.5 Notice of Termination:

When the disturbed soil areas have been permanently stabilized, Dovetail Energy, LLC. shall submit a Notice of Termination (NOT) form to Ohio EPA. This form will be signed in accordance with the signatory requirements of Part V, g of the Ohio NPDES general permit and will be submitted within 45 days after final site stabilization has been achieved. Final site stabilization is considered achieved once all temporary erosion and sediment control structures are decommissioned in accordance with the erosion and sediment control plan for the site. All trapped sediment will be placed in a pre-determined location and permanently stabilized.

5.0 SUMMARY AND CONCLUSIONS

This SWPPP was prepared to meet the requirements of Ohio EPA NPDES general permit. A summary of the SWPPP is presented below.

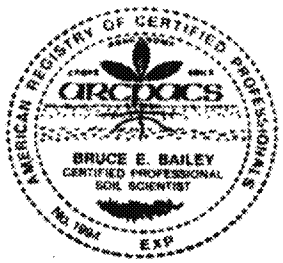
This SWPPP presents a description of pollutants that may potentially mix with storm water during construction of the soil borrow area and haul road at the Dovetail Energy site and that may potentially be discharged from the site. The SWPPP also presents control practices to be implemented during construction at the site to reduce the discharge of construction-related pollutants.

Existing conditions at the site are described in Section 2.2. The topography of the construction area on Dovetail Energy consists of disturbed quarries.

The construction activities that will occur at the Dovetail Energy site are described in Section 2.3. The prevalent potential storm-water pollutant during construction of the office/warehouse is sediment. A secondary source of pollutants is incidental spills from construction equipment. Practices that will be implemented at the site to control erosion and sedimentation and to minimize the potential for spillage of construction equipment fluids are described below.

The control practices for the site are described in Section 3. Erosion and sediment control measures consist of structural practices to collect runoff and minimize erosion (e.g., diversion ditch, establishment of vegetation) and practices to control sediment (e.g., silt fence, sediment basin). Section 3 also includes actions to be taken at the site in response to accidental spills.

Procedures to be followed to implement the SWPPP are presented in Section 4. The procedures include routine visual inspections and maintenance, and record-keeping. The visual inspections will be used to evaluate the control practices presented in this plan. This plan will be amended as necessary whenever there is a change in design, construction, or operation of the borrow area and haul road which has a significant effect on the potential for the discharge of pollutants to storm water.



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